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DATA CENTER OPERATIONS BRANCH

NDS OPERATIONS PROCEDURE MANUAL
NO. P-C003

SYSTEMS SW & HW
13 April 1983

CENTENNIAL TAPE DRIVES

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P-C003

DCOB Procedures
No. 1-4

DATA SYSTEMS OPERATIONS BRANCH
OPERATOR PROCEDURES
CENTENNIAL TAPE SUBSYSTEM

December 15, 1981

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DATA SYSTEMS OPERATIONS BRANCH

OPERATOR PROCEDURES
Centennial Tape Subsystem

DCOB Procedure
No. 1-4

1.1 Scope

The procedures described herein cover the operation of Centennial 3400 Tape Control Units and 3600 Tape Drives.

1.2 General

The Centennial Tape Subsystem consists of two (2) Tape Control Units (TCU) and twelve (12) Tape Units (TU) configured as shown in Figure 1-1. On the TCUs there are two control panels; the operator control panel located on the top front of the TCU, and the Field Engineers (FE) control panel located behind the TCU front access door. The operator controls for the TUs are located on the top front of the individual drive.

1.3 TCU Operator Controls

Of primary interest to the operator are the Channel Enable/Disable Switches and the Tape Unit On/Off Switches located on the top front of the TCU.

1.3.1 Channel Enable/Disable Switches

The three position Enable/Disable Switches on the TCU Operator Panel provide manual channel control between the TCU and the 1100/84 Input/Output Unit (IOU). Channel "A" of the TCUs is depending on switch setting, connected to IOU 0 or 2, and channel "B" is connected to IOU 1 or 3. Facing the cabinets, the TCU on the left controls TUs in the TCB0 string and the TCU on the right controls the TCB1 string. Table 1-1 illustrates the channel switching results. Two items to be noted about the use of the Channel Enable/Disable Switches are:

a. The switches should never be changed while the TCU is active.
b. The TCU is on-line until set off-line (either by the TCU off-line switch or by the 1100/84 console).

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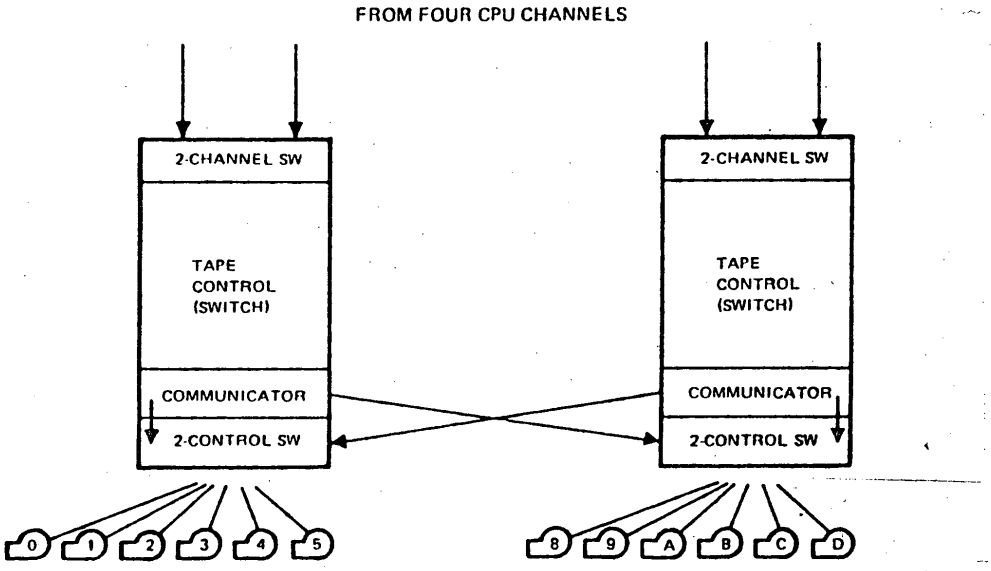

Figure 1-1. Centennial Tape Subsystem

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TABLE 1-1
CHANNEL ENABLE/DISABLE SWITCH SETTINGS

IOU INTERFACE								SWITCH SETTING			
TCU-TCB0(0-5)				TCU-TCB1(8-D)				TCU TCB0		TCU TCB1	
I0	I2	I1	I3	I0	I2	I1	I3	CHAN A	CHAN B	CHAN A	CHAN B
X	-	X	-	X	-	X	-	U	U	U	U
X	-	X	-	X	-	-	-	U	U	U	O
X	-	X	-	X	-	-	X	U	U	U	O
X	-	X	-	-	-	X	-	U	U	O	D
X	-	X	-	-	-	-	-	U	U	O	O
X	-	X	-	-	-	-	X	U	U	O	D
X	-	X	-	-	X	X	-	U	U	D	U
X	-	X	-	-	X	-	-	U	U	D	O
X	-	X	-	-	X	-	X	U	U	D	D
X	-	-	-	X	-	X	-	U	O	U	U
X	-	-	-	X	-	-	-	U	O	O	U
X	-	-	-	X	-	-	X	U	O	O	D
X	-	-	-	-	-	X	-	U	O	U	U
X	-	-	-	-	-	-	-	U	O	O	U
X	-	-	-	-	-	-	X	U	O	O	D
X	-	-	-	-	X	X	-	U	O	D	U
X	-	-	-	-	X	-	-	U	O	D	O
X	-	-	-	-	X	-	X	U	O	D	D
X	-	-	X	X	-	X	-	U	D	U	U
X	-	-	X	X	-	-	-	U	D	U	O
X	-	-	X	X	-	-	X	U	D	U	D
X	-	-	X	-	-	X	-	U	D	O	U
X	-	-	X	-	-	-	-	U	D	O	O
X	-	-	X	-	-	-	X	U	D	O	D
X	-	-	X	-	X	X	-	U	D	D	U
X	-	-	X	-	X	-	-	U	D	D	O
X	-	-	X	-	X	-	X	U	D	D	D

IOU INTERFACE								SWITCH SETTING			
TCU-TCB0(0-5)				TCU-TCB1(8-D)				TCU TCB0		TCU TCB1	
I0	I2	I1	I3	I0	I2	I1	I3	CHAN A	CHAN B	CHAN A	CHAN B
-	X	X	-	X	-	X	-	D	U	U	U
-	X	X	-	X	-	-	-	D	U	U	O
-	X	X	-	X	-	-	X	D	U	U	D
-	X	X	-	-	-	X	-	D	U	O	U
-	X	X	-	-	-	-	-	D	U	O	O
-	X	X	-	-	-	-	X	D	U	O	D
-	X	X	-	-	X	X	-	D	U	D	U
-	X	X	-	-	X	-	-	D	U	D	O
-	X	X	-	-	X	-	X	D	U	D	D
-	X	-	-	X	-	X	-	D	O	U	U
-	X	-	-	X	-	-	-	D	O	U	O
-	X	-	-	X	-	-	X	D	O	U	D
-	X	-	-	-	-	X	-	D	O	O	U
-	X	-	-	-	-	-	-	D	O	O	O
-	X	-	-	-	-	-	X	D	O	O	D
-	X	-	-	-	X	X	-	D	O	D	U
-	X	-	-	-	X	-	-	D	O	D	O
-	X	-	-	-	X	-	X	D	O	D	D
-	X	-	X	X	-	X	-	D	D	U	U
-	X	-	X	X	-	-	-	D	D	U	O
-	X	-	X	X	-	-	X	D	D	U	D
-	X	-	X	-	-	X	-	D	D	O	U
-	X	-	X	-	-	-	-	D	D	O	O
-	X	-	X	-	-	-	X	D	D	O	D
-	X	-	X	-	X	X	-	D	D	D	U
-	X	-	X	-	X	-	-	D	D	D	O
-	X	-	X	-	X	-	X	D	D	D	D

IOU INTERFACE								SWITCH SETTING			
TCU-TCB0(0-5)				TCU-TCB1(8-D)				TCU TCB0		TCU TCB1	
I0	I2	I1	I2	I0	I2	I1	I2	CHAN A	CHAN B	CHAN A	CHAN B
-	-	X	-	X	-	X	-	O	U	U	U
-	-	X	-	X	-	-	-	O	U	U	O
-	-	X	-	X	-	-	X	O	U	U	D
-	-	X	-	-	-	X	-	O	U	O	U
-	-	X	-	-	-	-	-	O	U	O	O
-	-	X	-	-	-	-	X	O	U	O	D
-	-	X	-	-	X	X	-	O	U	D	U
-	-	X	-	-	X	-	-	O	U	D	O
-	-	X	-	-	X	-	X	O	U	D	D
-	-	-	-	X	-	X	-	O	O	U	U
-	-	-	-	X	-	-	-	O	O	U	O
-	-	-	-	X	-	-	X	O	O	U	D
-	-	-	-	-	-	X	-	O	O	O	U
-	-	-	-	-	-	-	-	O	O	O	O
-	-	-	-	-	-	-	X	O	O	O	D
-	-	-	-	-	X	X	-	O	O	D	U
-	-	-	-	-	X	-	-	O	O	D	O
-	-	-	-	-	X	-	X	O	O	D	D
-	-	-	X	X	-	X	-	O	D	U	U
-	-	-	X	X	-	-	-	O	D	U	O
-	-	-	X	X	-	-	X	O	D	U	D
-	-	-	X	-	-	X	-	O	D	O	U
-	-	-	X	-	-	-	-	O	D	O	O
-	-	-	X	-	-	-	X	O	D	O	D
-	-	-	X	-	X	X	-	O	D	D	U
-	-	-	X	-	X	-	-	O	D	D	O
-	-	-	X	-	X	-	X	O	D	D	D

U - UP
O - OFF
X - ENABLE
- - DISABLE
TCU - TAPE CONTROL UNIT

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1.3.2 TCU Tape Unit On/Off Switches

The TU On/Off Switches are located on the operator panel of the TCU. The switches create a physical path between any TCU in the subsystem to the TUs attached to the TCU. There are 16 (sixteen) switches mounted in rows of 8 and are labeled 0 through 7, and 8 through F. The numbers also represent the possible addresses of the attached TUs assigned to the TCU's. Each switch control selection of one TU from a particular TCU.

Switch assignments for the currently assigned TU's are:

Top Row - TUs 0 through 5 for TB0 through TB5
Bottom Row - TUs 8 through c for TB6 through TB11

Use of the TU On/Off Switches is optional if the TU switches are left on and the 1100/84 console is used to down the device.

1.3.2.1 Tape Unit Off-Line Switch

Figure 1-2 provides an illustration of the TU Off-line switch location.

1.4 Power-Up/Power-Down Procedures

The following provide the procedures to power-up and power-down the Tape Control Units. It assumes that the associated power panel circuit breakers have been set.

1.4.1 Power-Up

To power-up the TCU, open the rear door of the cabinet and access the AC Power Supply Panel (Figure 1-3). Place the LOCAL/REMOTE toggle switch in the LOCAL position. PRESS the ON button. Open the front cabinet to access the FE panel. (Figure 1-4). Place the TCU On-line by setting the OFF LINE switch On(down). The system is now powered-up.

1.4.2 Power-Down

To power-down the TCU, place the OFF-line switch in the OFF position (up), set the LOCAL/REMOTE toggle switch to LOCAL and press the OFF button.

1.5 Field Engineer Panel (FEP)

The following provides some routines using the FEP which may be of used to the operator.

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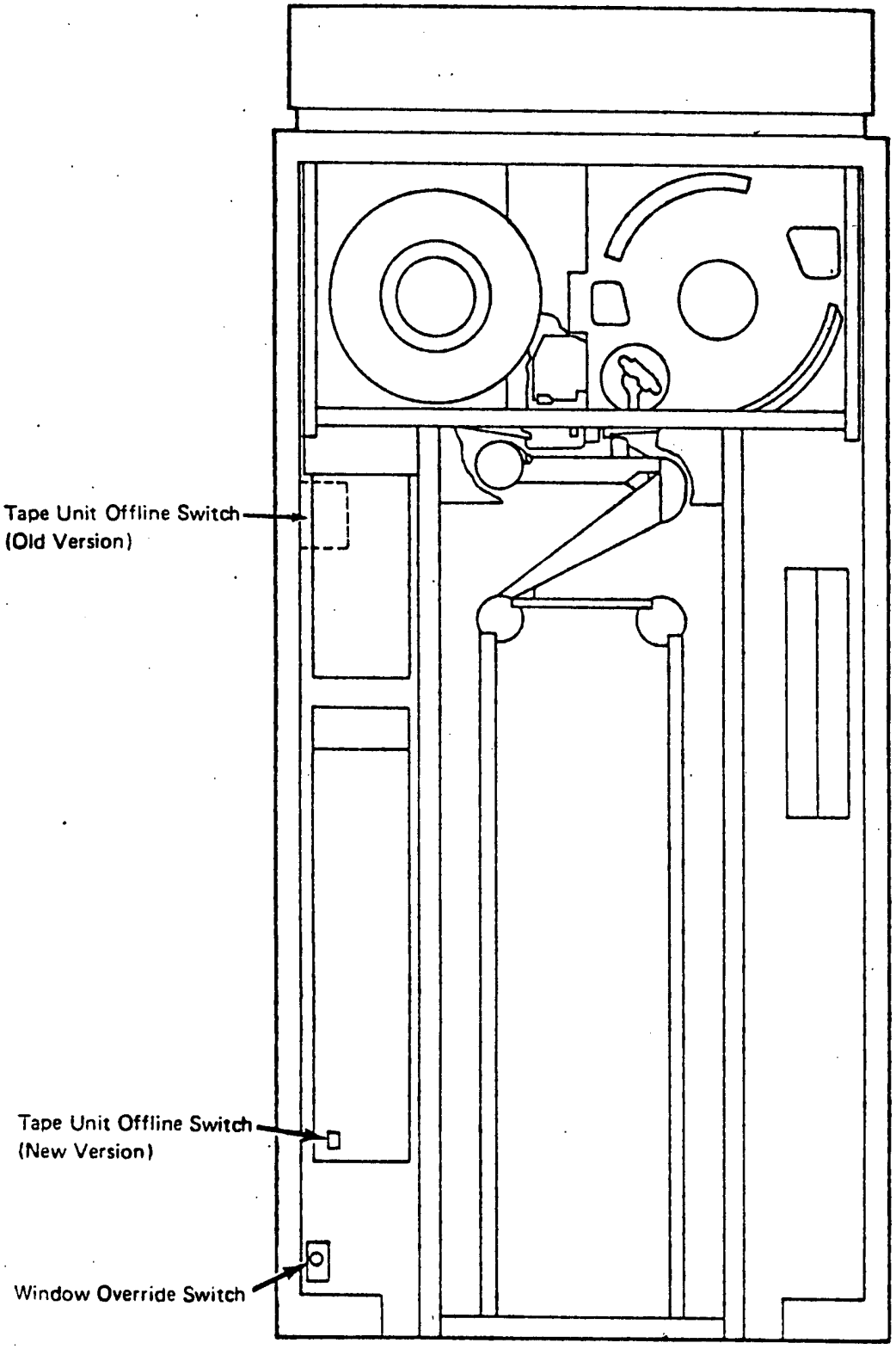

Figure 1-2. Tape Unit Offline Switch Location

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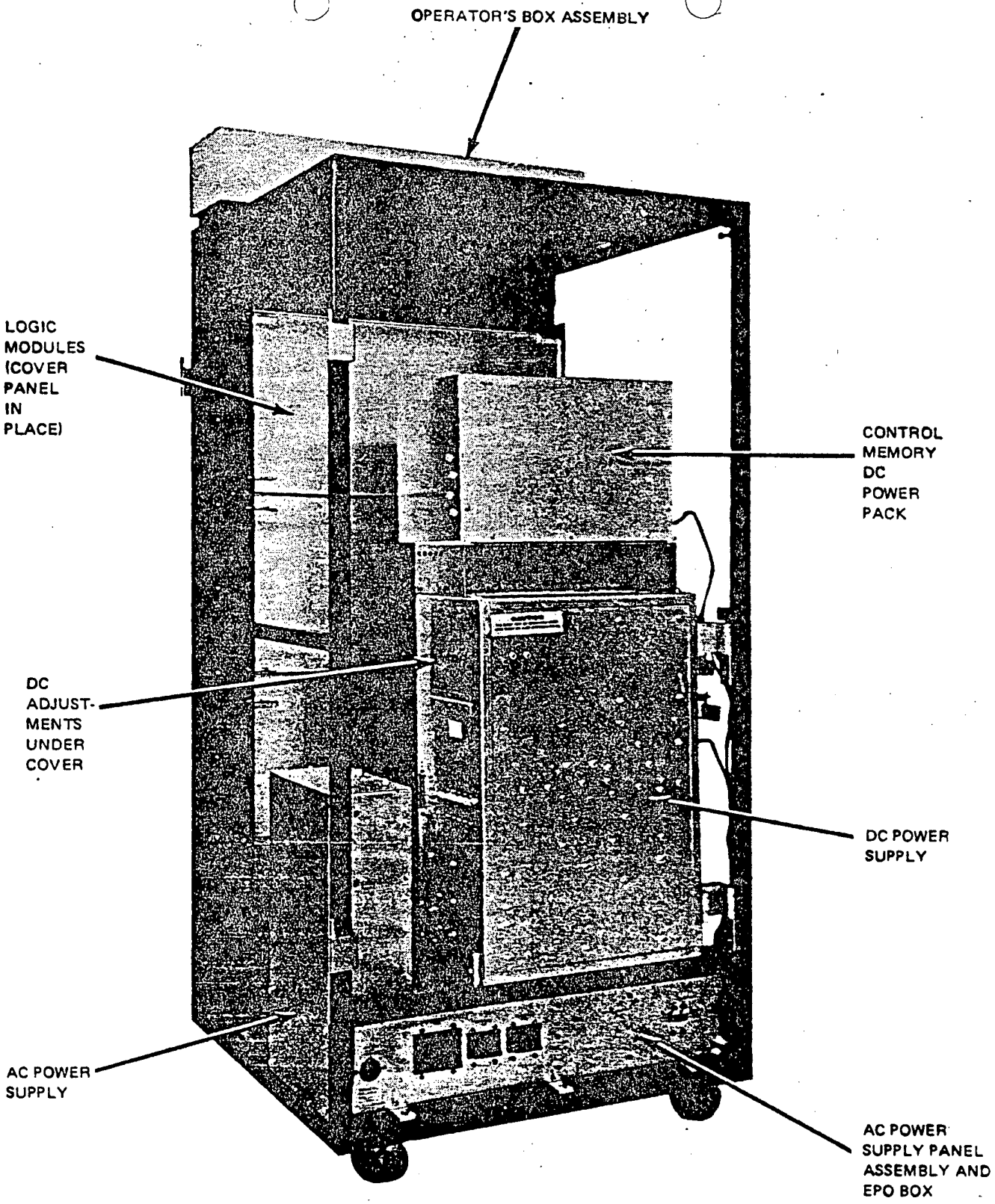
OPERATOR'S BOX ASSEMBLY
LOGIC MODULES (COVER PANEL IN PLACE)
CONTROL MEMORY DC POWER PACK
DC ADJUST-MENTS UNDER COVER
DC POWER SUPPLY
AC POWER SUPPLY
AC POWER SUPPLY PANEL ASSEMBLY AND EPO BOX

Figure 1-3. Rear View, Panels Removed (Mod IV and Mod IV-C)

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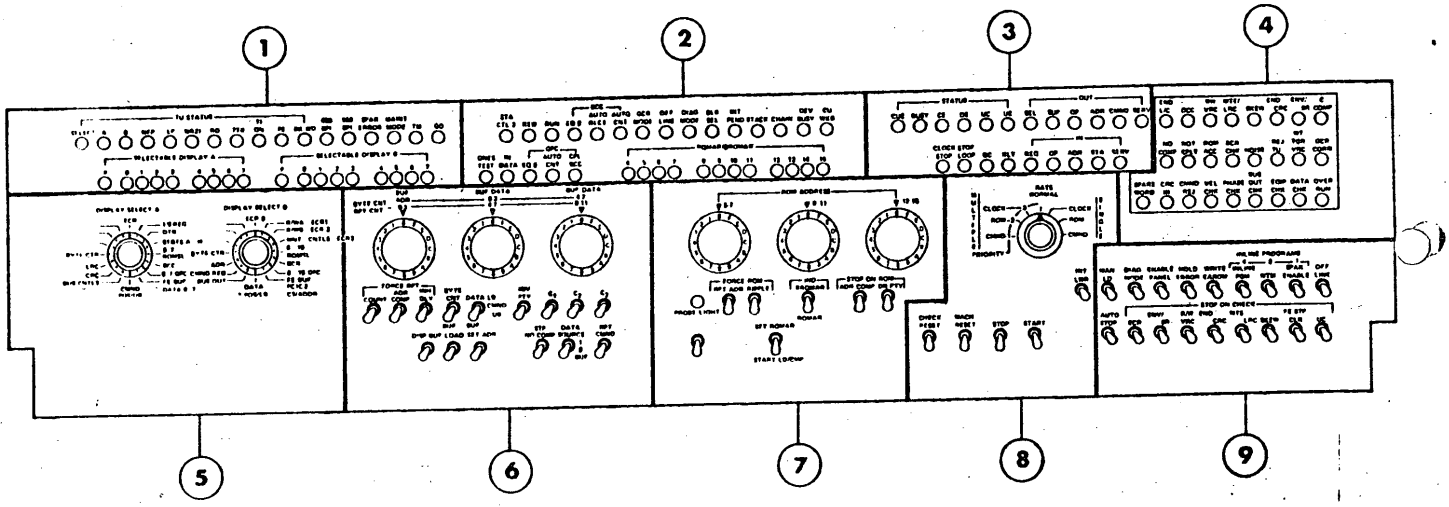

1. LEFT-HAND STATUS & DISPLAY INDICATORS
2. LEFT-CENTER STATUS & DISPLAY INDICATORS
3. RIGHT-CENTER STATUS & DISPLAY INDICATORS
4. RIGHT-HAND STATUS & DISPLAY INDICATORS
5. DISPLAY SELECTION SWITCHES
6. FE BUFFER CONTROLS
7. ROM CONTROLS
8. RATE SELECTION, RESET CONTROLS
9. CHECKOUT/STOP ON CHECK SWITCHES

NOTE: ALL INDICATORS MAY BE FOUND IN THE LOGICS DI PAGES. ALL CONTROLS MAY BE FOUND IN THE LOGICS DS PAGES. SHOWN IS THE MOD IV-C PANEL. GENERAL FUNCTIONAL LAYOUT OF THE MOD IV PANEL IS THE SAME. DIFFERENCES ARE INDICATED IN APPENDIX G.

Figure 1-4. Control Panel Orientation (Mod IV-C)*

*MOD IV FE PANEL LAYOUT IS FUNCTIONALLY SIMILAR.

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1.5.1 Select Tape Unit

Select an available Tape Unit. Open the left vertical door at the front of the selected tape unit and place the Offline switch in the OFFLINE (up) position (Figure 1-2). This makes the Tape Unit available to the TCU for FE buffer routines. Instructions for entering a tape unit address into the FE Buffer are given in Figure 1-5. After setting all FE panel toggle switches OFF (down), place the TCU OFFLINE and the AUTO STOP switch to the ON (up) position (Steps 1 and 2). The OFFLINE indicator will light after the TCU completes the operations in progress. Set the BUF ADR knob to the 0 position (Step 3). The address of the selected tape unit is entered on knobs 0-3 (set to 0) and 4-7, (Steps 4 and 5). In the illustration, Y represents the tape unit address (0-7 or 8-F). After the address is set, raise toggle switch C2 ON and hold it up while raising the LOAD switch (Steps 6 and 7).

1.5.2 Write Tape Mark

With tape loaded on the selected Tape Unit, it is possible to write a tape mark by raising the WTM switch (Step 1, Figure 1-6) and raising the START switch (Step 2, Figure 1-6). This sequence will write a tape mark at the drive specified by the switch setting of Step 5 in Figure 1-5.

1.5.3 Tape Rewind Instructions

The Tape on the selected Tape Unit can be rewound by operating toggle switches on the FE panel. First raise the SPAR ENABLE toggle switch (Step 3, Figure 1-6). Next, raise the WTM toggle switch (Step 4, Figure 1-6). With both these switches raised, raise the START switch (Step 5). The tape on the TU selected in Step 5 (Figure 1-5) will now be rewound to the Beginning Of Tape (BOT) marker.

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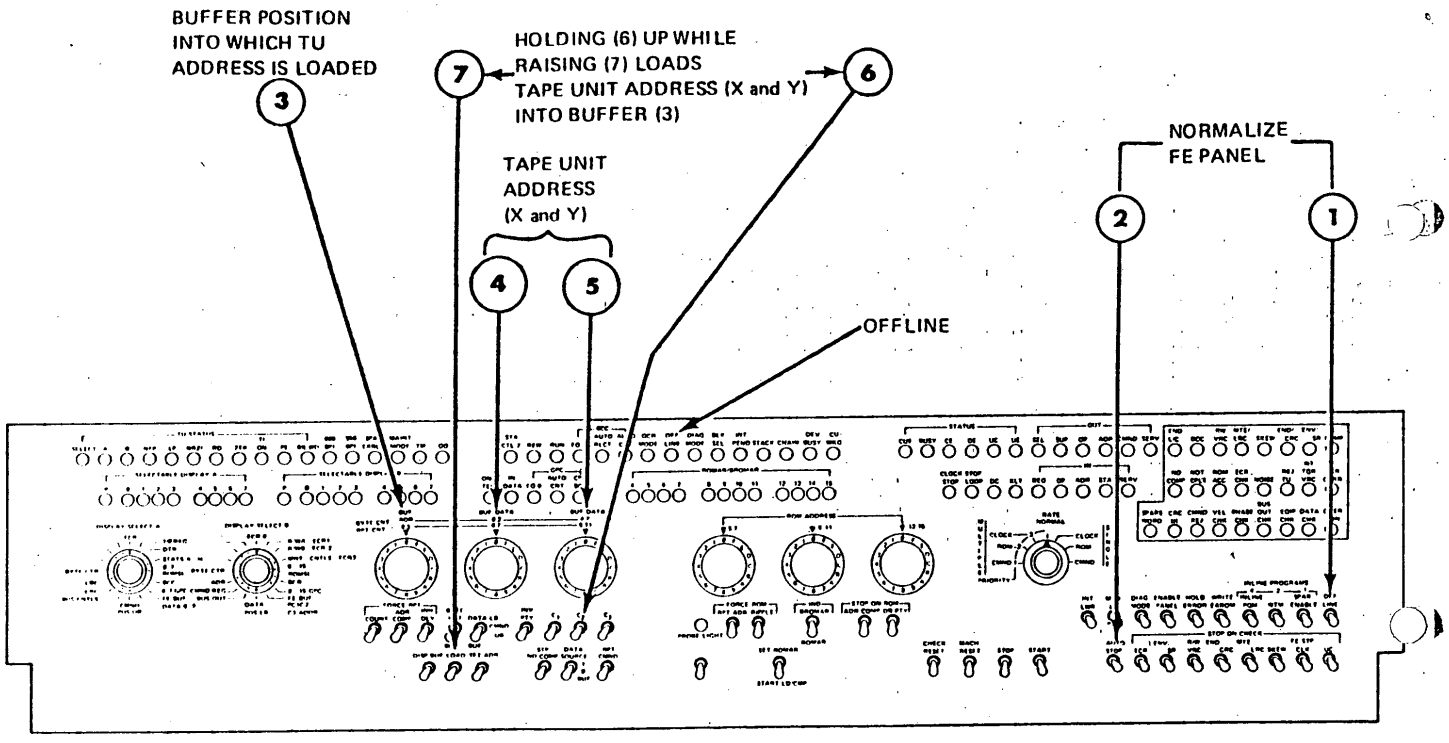

Figure 1-5. Basic FE Panel Operation

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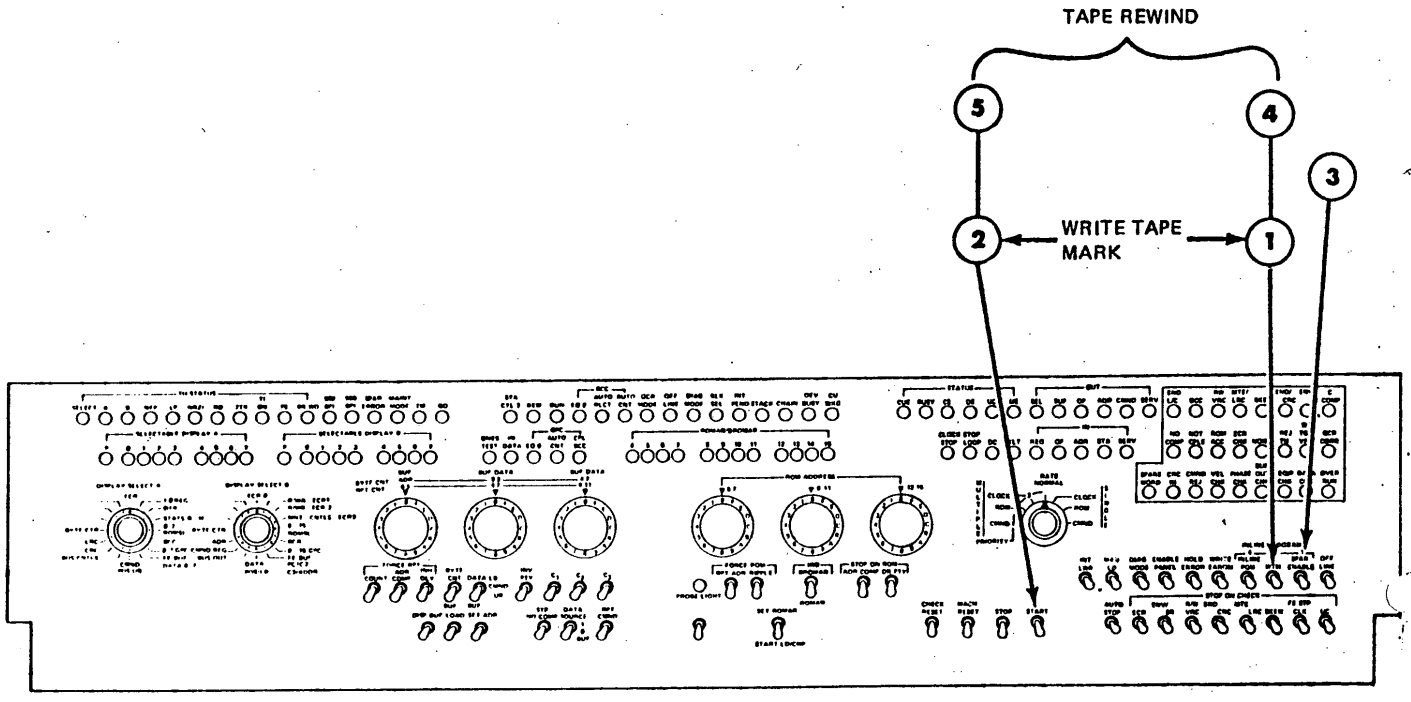

Figure 1-6. **Write Tape Mark/Tape Rewind**

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